



Pennsylvania Senate Hearing

The Hershey Continuous Improvement System Overview

Gary Johnson

June 7, 2010

Agenda

- What is Continuous Improvement?
- Key Concepts
 - Value
 - Waste
- The Model

Key Messages

- Hershey has always worked on “continuous improvement” but either *ad hoc* or on a “burning platform” basis.
- In 2007, a more project based approach was adopted and used primarily in manufacturing
- In 2009, an operating system approach was adopted to ingrain CI into daily business practices across operations with a vision to extend across the corporation
- The objective of today’s discussion is to introduce the basic aspects of the continuous improvement system

Continuous Improvement Vision 2010

The Hershey Company will be the best-in-class in all aspects of its business through culture and processes that promotes continuous learning and improvements all of its activities utilizing the creative energy of our employees and business partners to improve our safety, quality, service and cost.

What is Continuous Improvement?

- A management process where *customer-valued* delivery processes are *constantly* evaluated and *improved* in light of their efficiency, effectiveness, and flexibility.

<p><u>Customer Valued</u> The customer determines the value of the process by choosing the attributes he values in the product.</p>	<p><u>Delivery process</u> A process that creates or transports value</p>		
	<p><u>Constantly</u> Every day!</p>	<p><u>Efficiency</u> % utilized</p>	<p><u>Flexibility</u> Versatility to produce on demand</p>
		<p><u>Effectiveness</u> % match</p>	

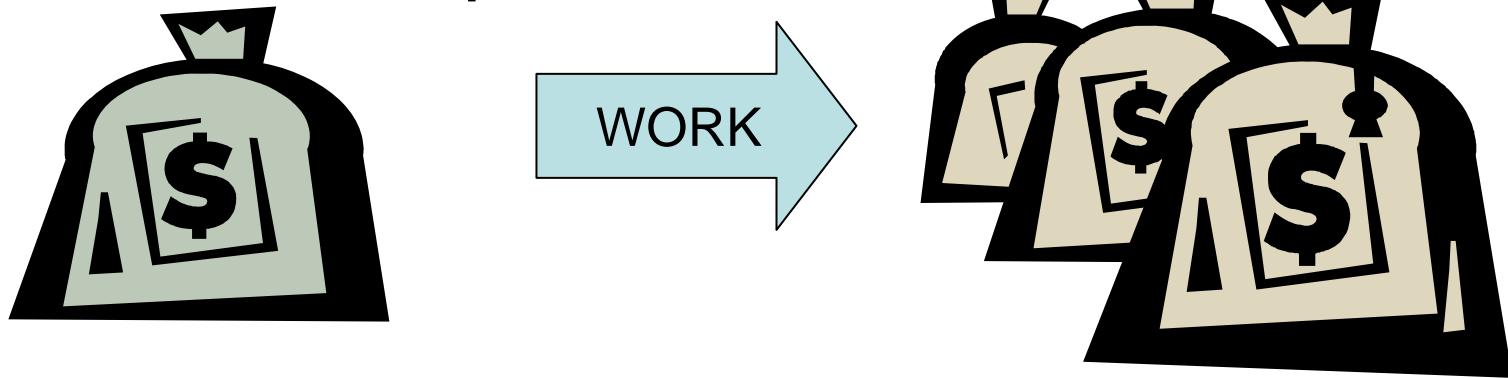
What is VALUE?

- Value is the price that a customer is willing to pay for a good or service.



What is VALUE ADDED?

- The VALUE ADDED is the difference between the value of the raw material and the finished product

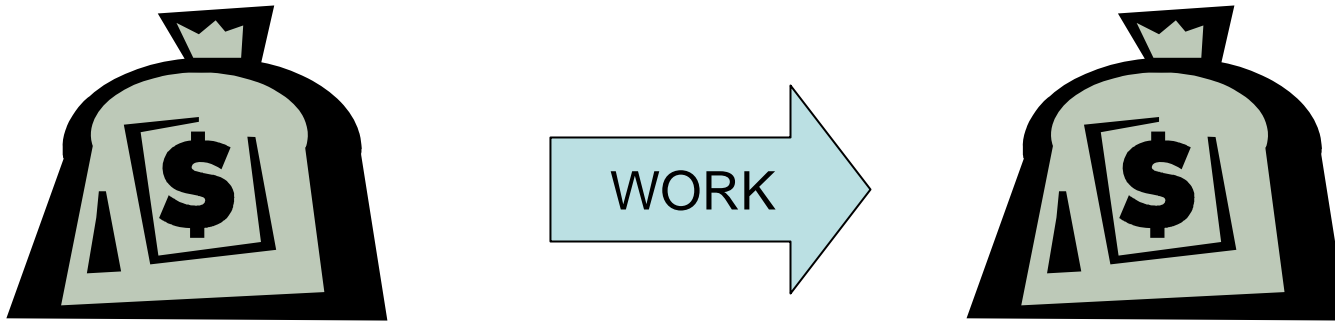


A process is considered to be value added if:

- A customer values it and would be willing to pay for it, AND
- It changes the form, fit, or function of the product or service, AND
- It is done right the first time.

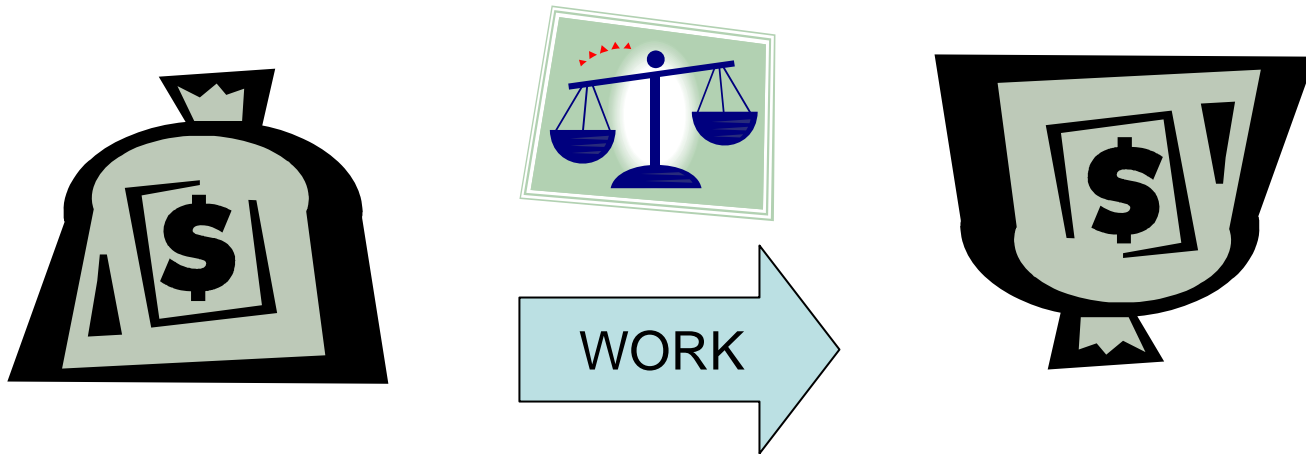
Sometimes activities do not result in value creation...

- Non-value added work results in no difference



Non-value added work is waste!

But some non value added activities are required



Legal, environmental or technological reasons sometimes require certain work.

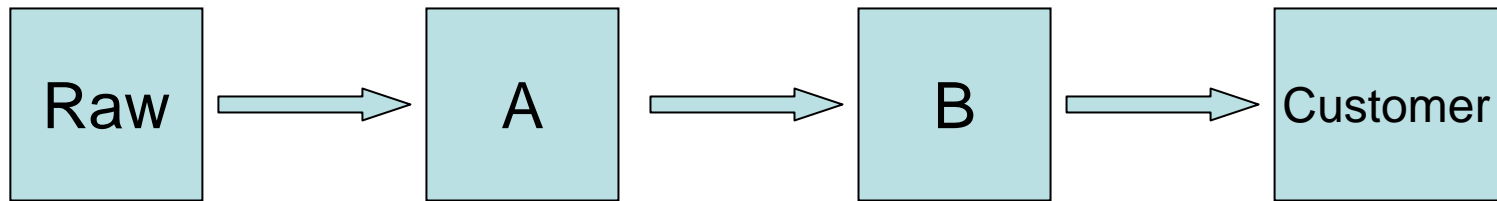
Do them as efficiently as possible!

“Knowing the Value” Strategies:

- Since value is established by your customer, you need to be aware of what they are paying you for and what they are NOT paying you for.
- Make a list of your customers, the product you provide for them, and the characteristics of your product that drive the “purchase” of your product...
 - *Is it cycle time? Is it accuracy? Is it consistency?*
 - *Is it the flavor? The contents? The packaging?*
 - *Is it the data? Is it the information? Is it the results?*
- Can you measure these attributes? (*Do you measure these attributes?*) Can you measure how often you completely satisfy your customer?
- Do you know what it takes to insure you satisfy your customer?
- Do you know the process?

Characteristics of a process

- A process is a series of steps required to produce a product or service



Characteristics:

Sequential

Measurable (rate, cycle time, temperature, etc)

Predictable (*hopefully*)

Efficient (amount of output versus the amount of input)

Can be value added or non value added

Knowing the process is the key pre-requisite in continuous improvement.

Processes are the focus of the improvement.

- Underlying any cost of business is a process. While our goal may be to change the metric, in order to make improvements we must focus on the process.
- It is important to understand the aspects of the process which create value and cost; as well as, to understand the capabilities and the common failures.
- In order to do that we must know the process.

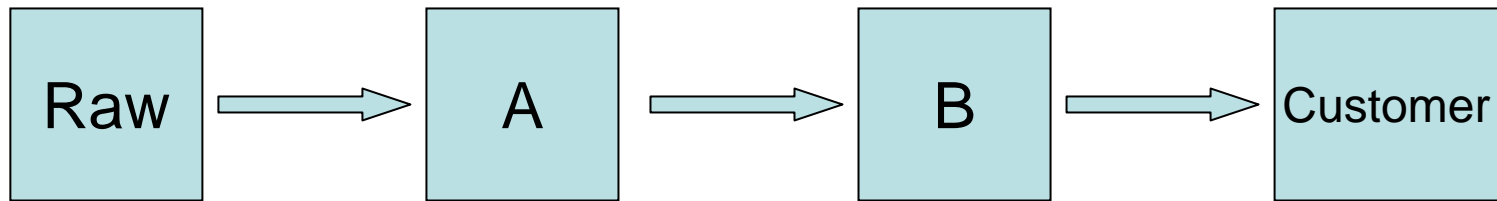
The process must be repeatable in order to be improved.

- Processes which are never the same cannot be improved, and in reality, cannot be managed.
- Customers and Managers will never know what to expect from a non-repeating process.
- Improvement teams will never be able to determine if poor performance is due to poor input quality or poor process quality, nor will they be able to implement sustainable actions.

“Great Processes yield Great Results”

What is a process?

- A series of steps required to produce a product or service



Characteristics:

Sequential

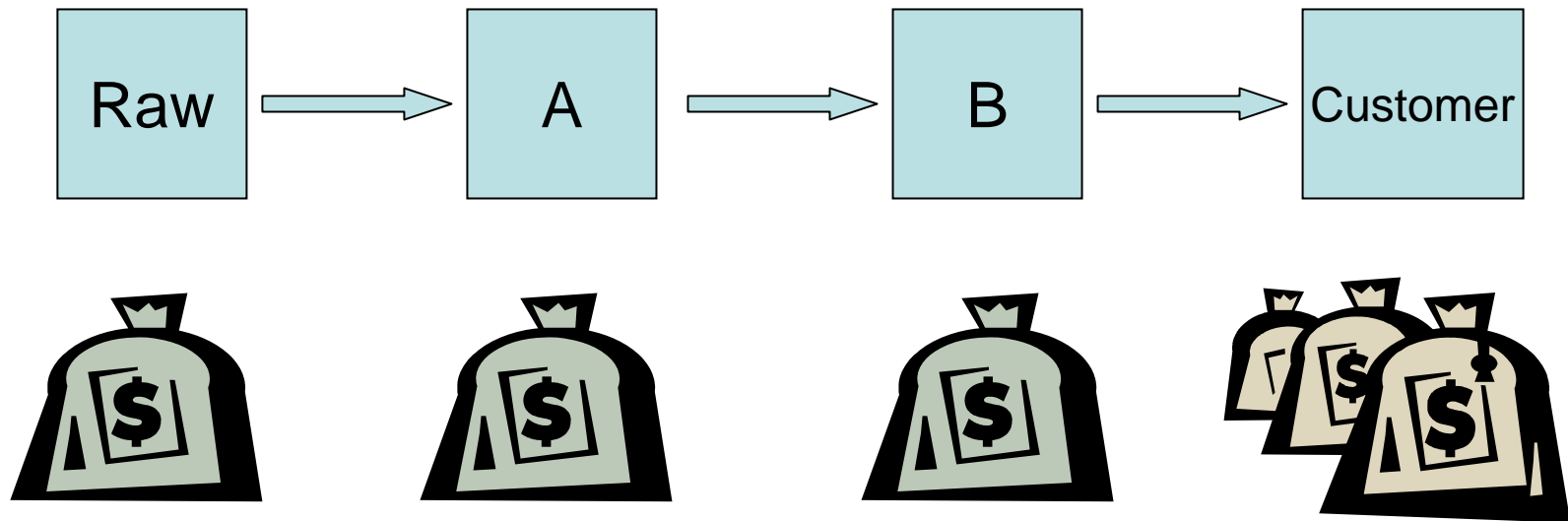
Measurable (rate, cycle time, temperature, etc)

Predictable? (hopefully)

Efficient (amount of output versus the amount of input)

Can be value added or non value added

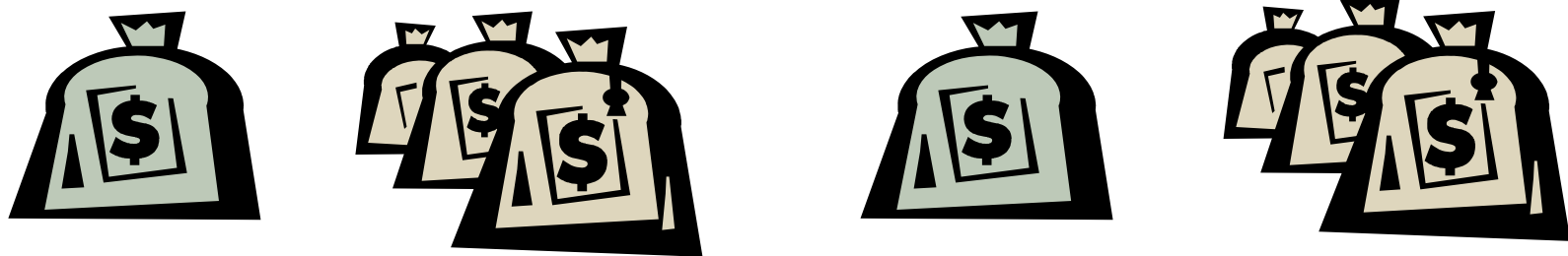
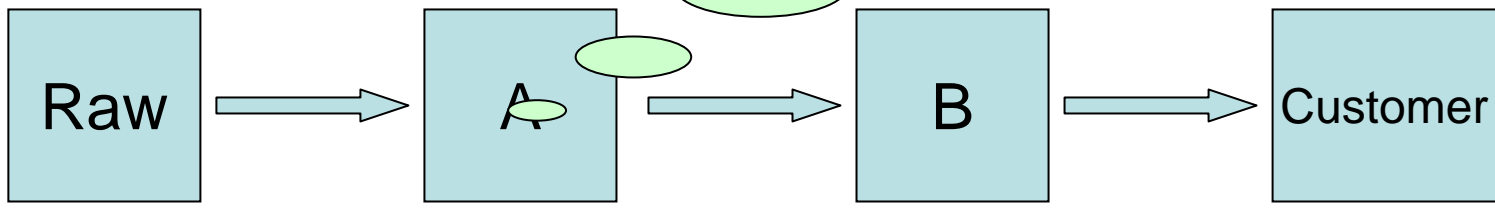
A WASTE FREE PROCESS



**Note: Value Added does not equal Cost Added.
(If it does, there will be no profit.)**

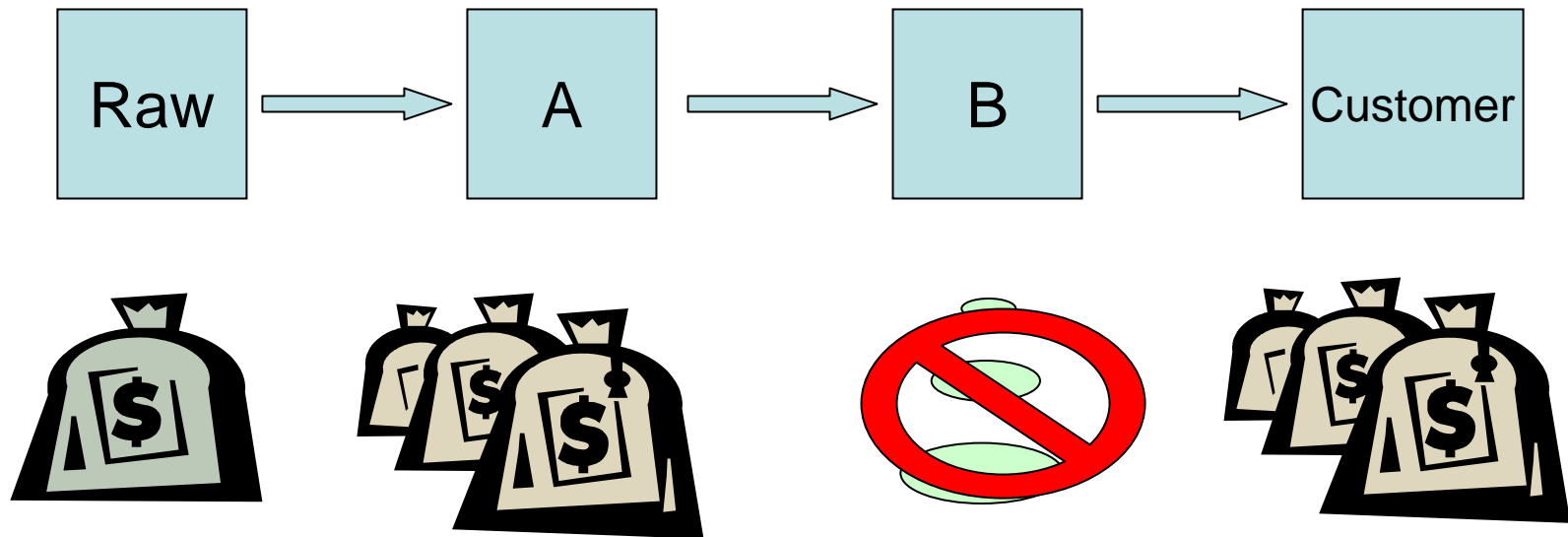
A PROCESS WITH WASTE

Is this
over-processing
waste?



More value was created than the customer wanted.

A PROCESS WITH WASTE



Is this
unnecessary
processing

Process Step B creates NO value!!

Seven Types of Waste

(Non-Value Added Activities)

Transportation

Inventory

Motion

Waiting

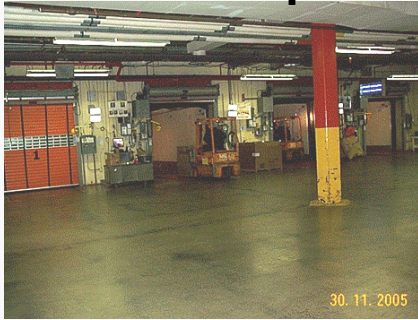
Over Production

Over Processing

Delays

7 Types of Waste

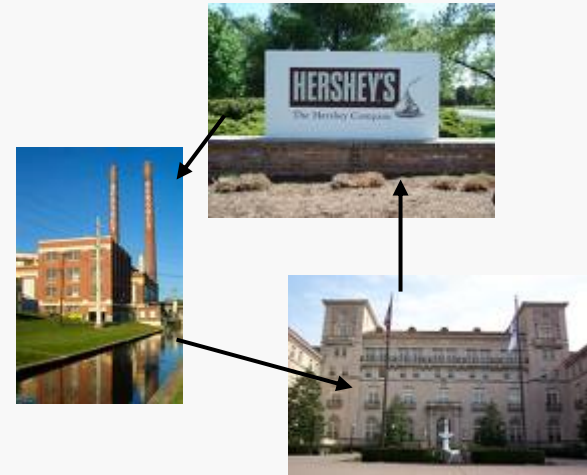
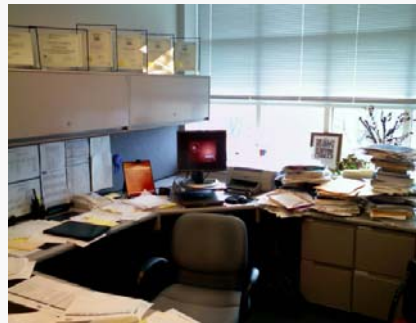
Transportation



Motion

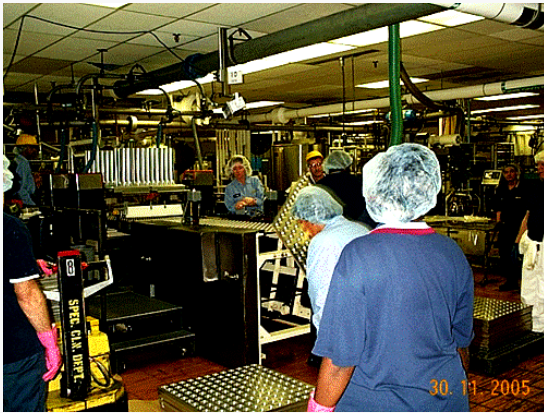


Inventory



7 Types of Waste

Waiting



Over Processing



Over Production



Defects

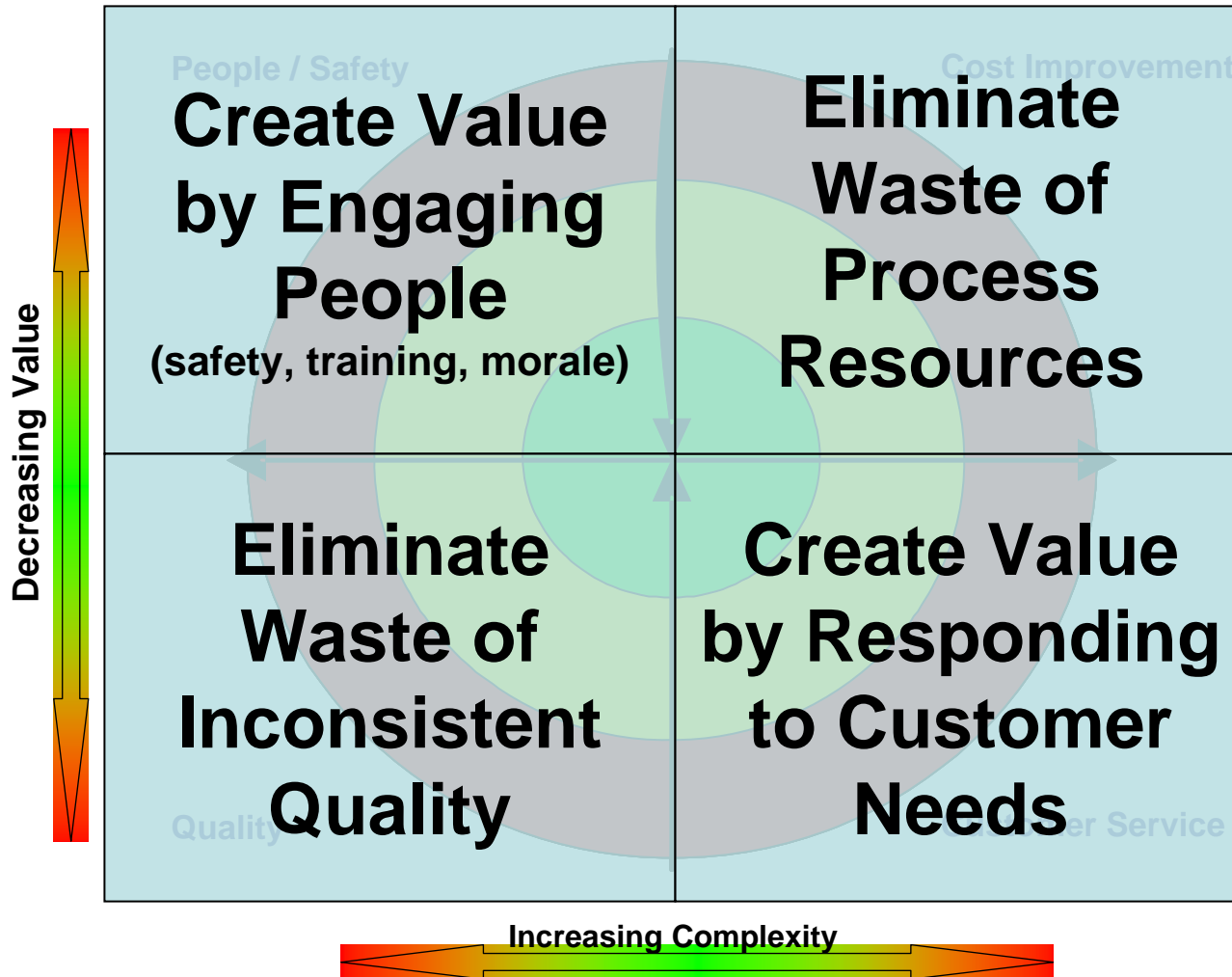


So the issue for Continuous Improvement comes down to

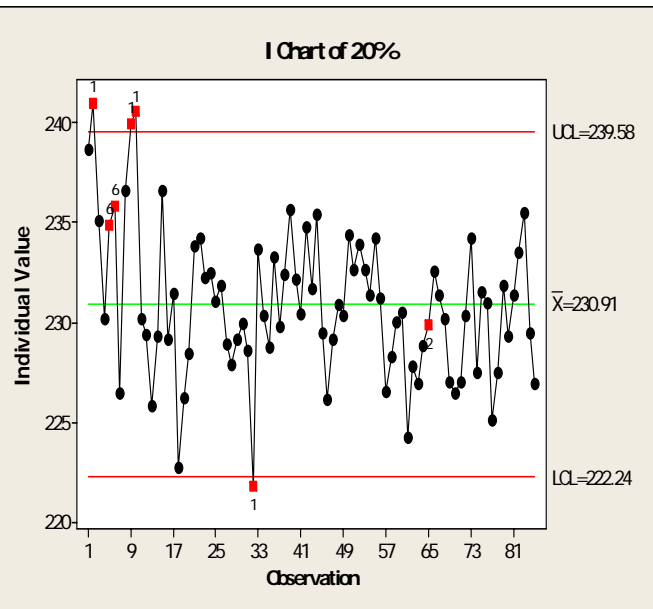
- **Creating Value for the Customer**
 - What they want
 - When they want it
 - Where they want it

- **Eliminating Waste**
 - They don't pay for waste!

What does CI Impact?



CI seeks to reduce the causes of inefficiency



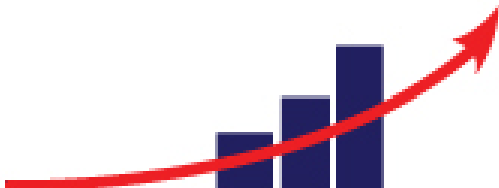

Variation



Waste



Overburden



Continuous Improvement
Driving Breakthrough Results

Real Life Examples of this Working

Case Studies

City of Fort Wayne, Indiana

“The city of Fort Wayne, reduced the number of transportation engineering projects that varied from their cost estimates by more than 10% from **35% down to 14%**.

This freed up **\$150,000** over the first six months following completion of the project.”

“REDUCED THE LENGTH OF TIME BETWEEN REINSPCTIONS FROM HUNDREDS OF DAYS TO AN AVERAGE OF **34 DAYS.**”

“Reduced the rate of **complaint calls** about the degree and frequency of tree trimming by **33%.**”

“Increased reported **pothole repair** from **77% repaired to 98% repaired**, while also reducing the **response time** from up to **80 hours** from notification time down to within **24 hours** from notification time”

“By eliminating variation and reducing **bottlenecks**, a Fire Department can now perform **23% more re-inspections** a year without any additional staffing”

Case Studies - Lockheed Martin

“Lockheed Martin was able to offer their newest missile at half the cost and one-third the cycle time of its predecessors due to use of Lean Six Sigma”

“Have been able to reduce the lead time for purchase order processing by over 40%”

- Discovered that **83%** of activities performed between placing a purchase order and receiving the goods was non-value-added.

“...credits the Lean *Four Step Rapid Setup Method* tool for being a key enabler in helping **cut procurement costs by 50%**”

“LM21 (Lockheed Martin’s operational excellence program) is on track to achieve **approximately \$4 billion in documented savings over a four-year period**”

“...Implementing Lean & Six Sigma has resulted in debt reduction, healthy revenues, exceeding of cost-reduction targets, and a record number of orders backlogged.”

Stanford Hospital and Clinic

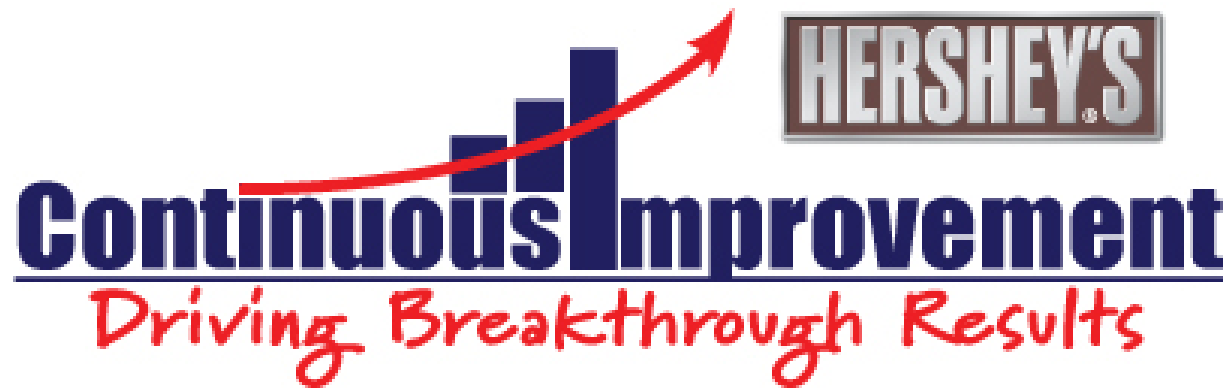
“Their application of Lean and Six Sigma helped put them in a position to deliver **higher quality patient care with lower costs**, and they **were able to regain market share from local competitors.**”

“ANNUAL MATERIAL COSTS HAVE DECREASED BY \$25 MILLION DUE TO APPLICATION OF LEAN SIX SIGMA CONCEPTS THROUGHOUT THE HOSPITAL.”

“**Reduced** the number of surgical trays from six (one for each case type) down to one common tray”

Reduced the number of vendors for various supplies from 8 to 2.

This change saved them over **\$25 million** from 2001 to 2002.



The Hershey Continuous Improvement System (HCIS)

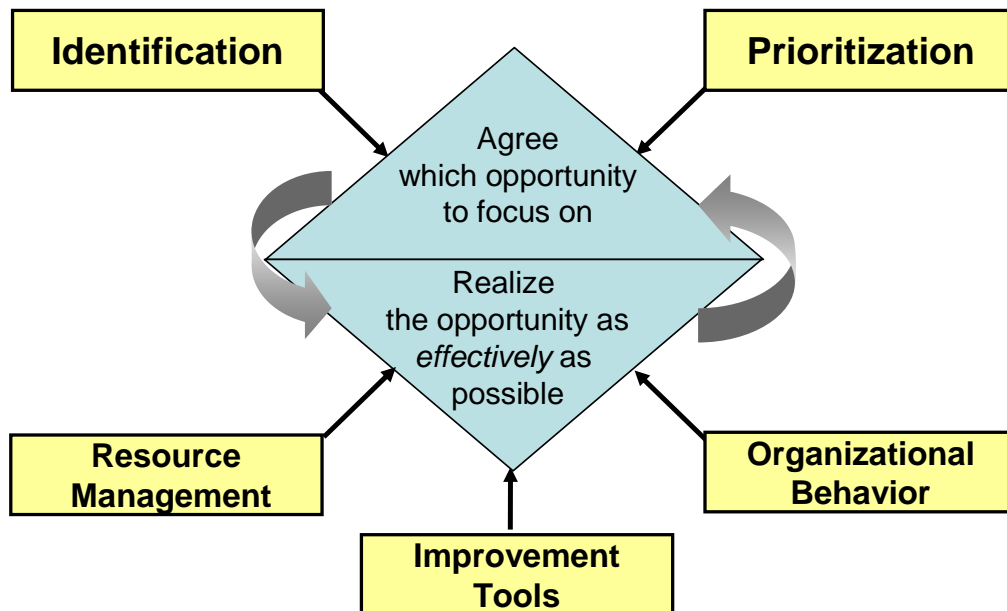
Overview

We have established a framework for operating with an improvement mindset...

The Hershey Continuous Improvement System

KNOW THE CUSTOMER VALUE
KNOW THE PROCESS

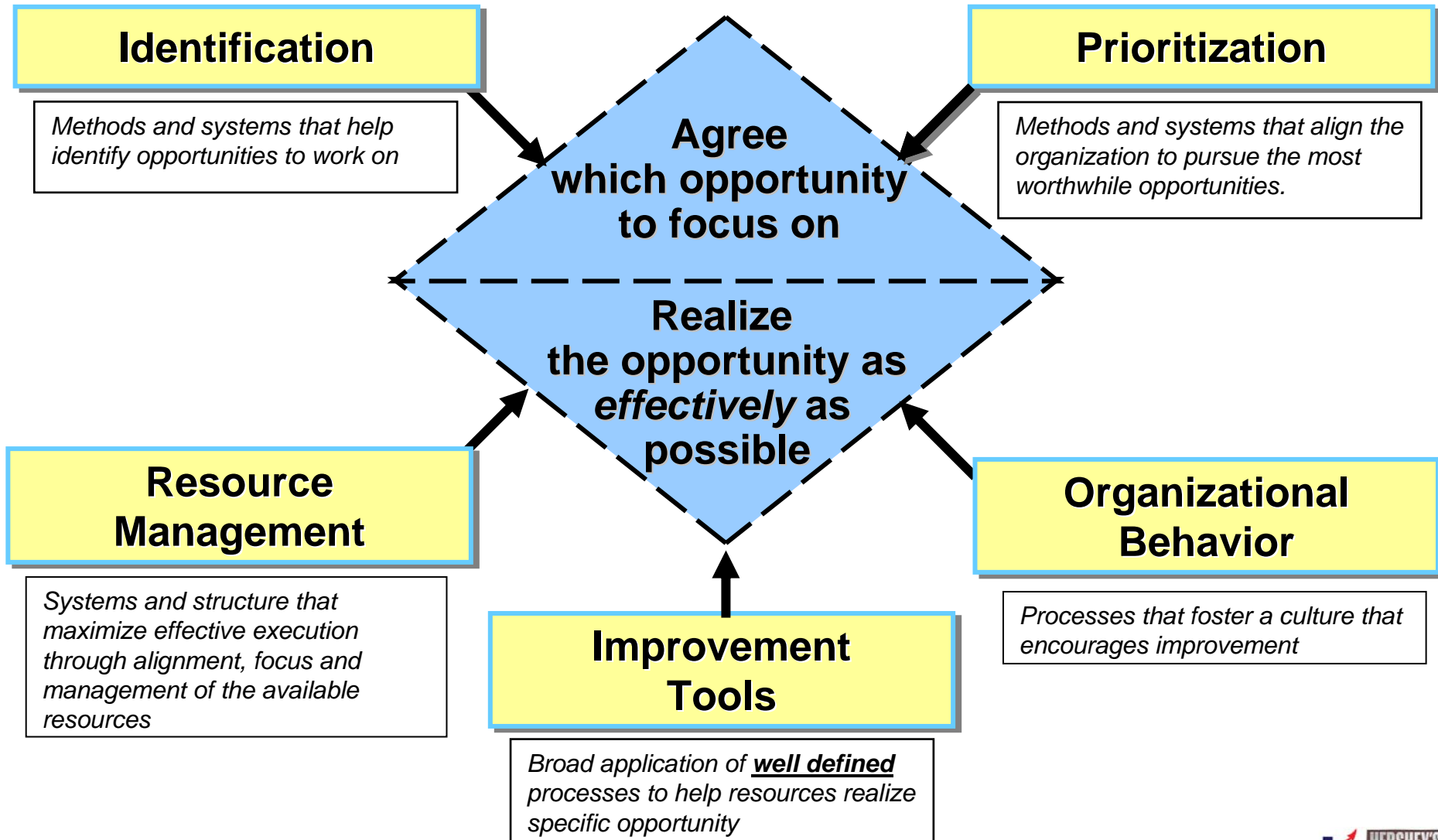
Continuous Improvement



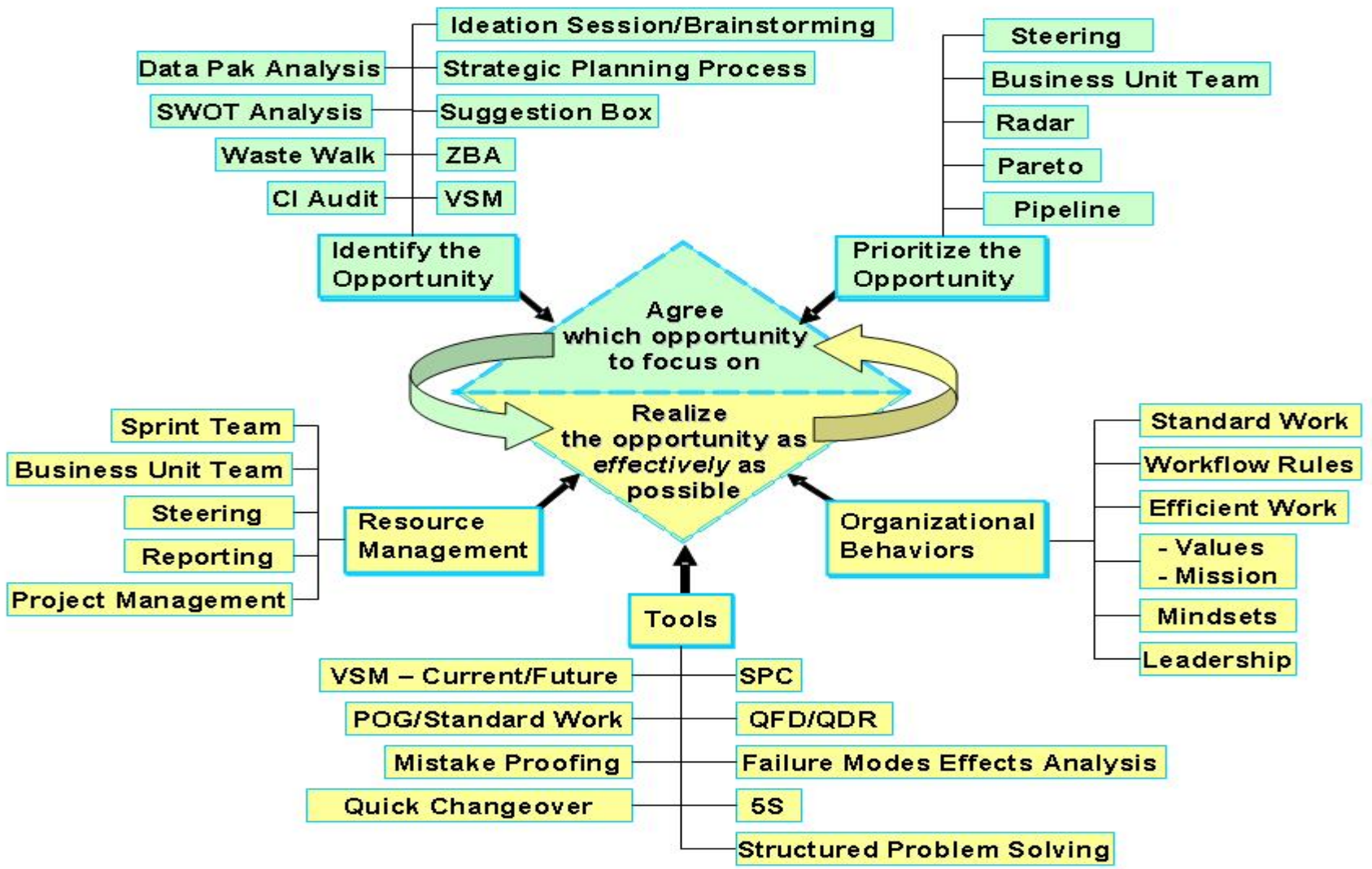
QUEST FOR PERFECTION !

A philosophy to actively engage employees in improving performance daily.

Continuous Improvement Process



The HCIS uses established philosophies to drive improvement



Zero-Based Analysis is based on the “perfect world” (a waste free world)

Zero Based Thinking

- For every cost, there is an opportunity to reduce it...to zero

Zero Based Analysis

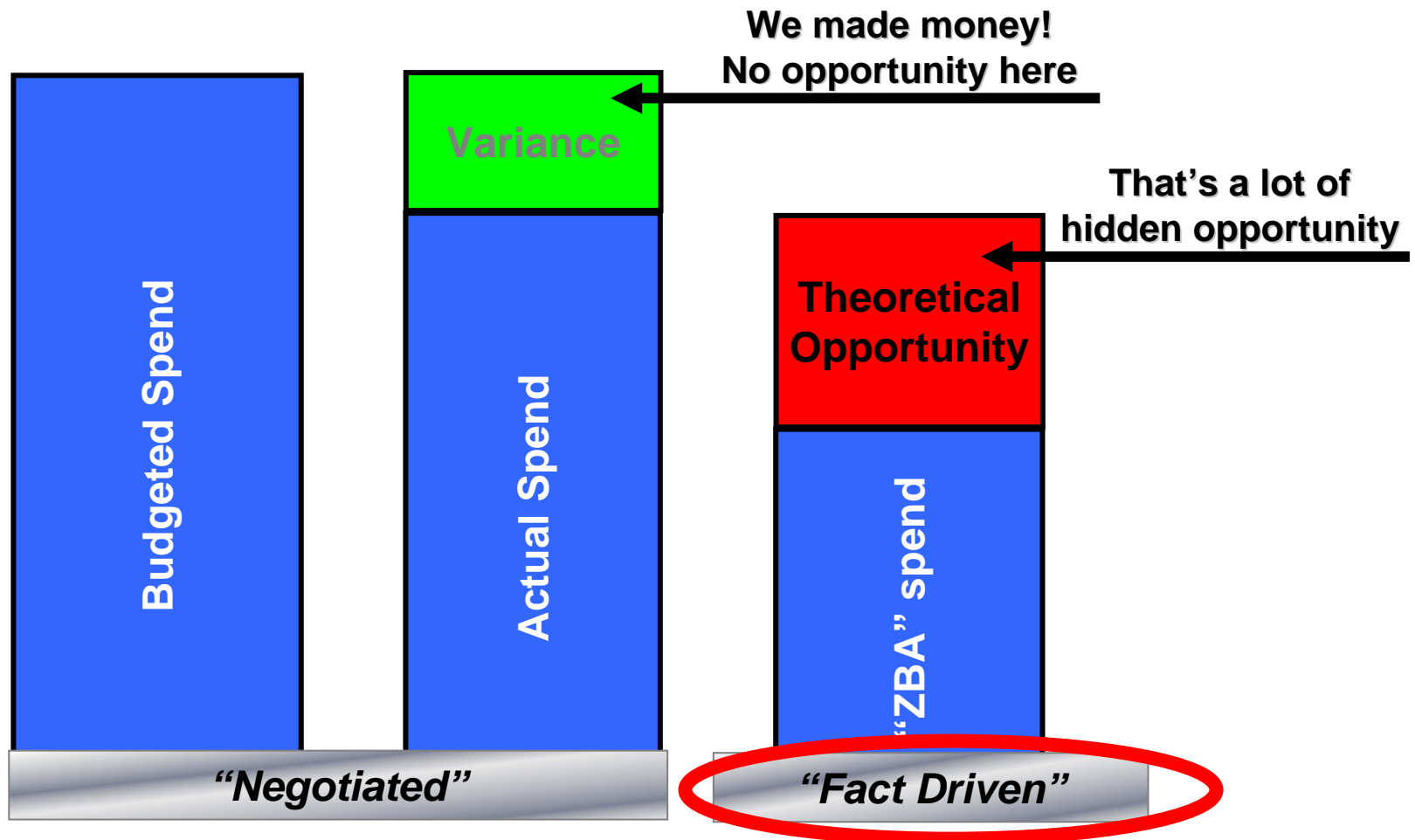
- What would your costs have been if you were operating in a perfect world?

- No downtime
- No cleaning time
- No changeover
- No raw material waste
- No overfill
- Always running at maximum speeds
- Minimum crew size
- Minimum WIP & Inventory
- No unplanned Maintenance
- Minimum energy input

- Then, compare these “perfect world” costs to actual costs.

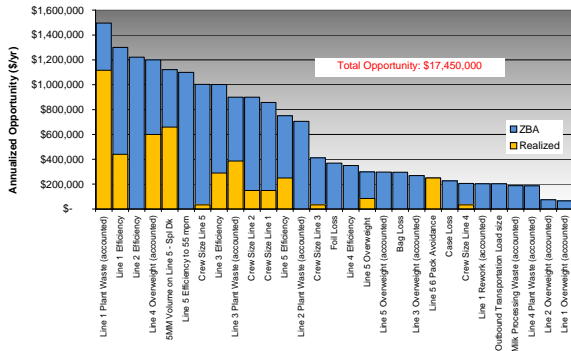


The ZBA provides a view of opportunity in a different light



Agreeing on the opportunity to work on

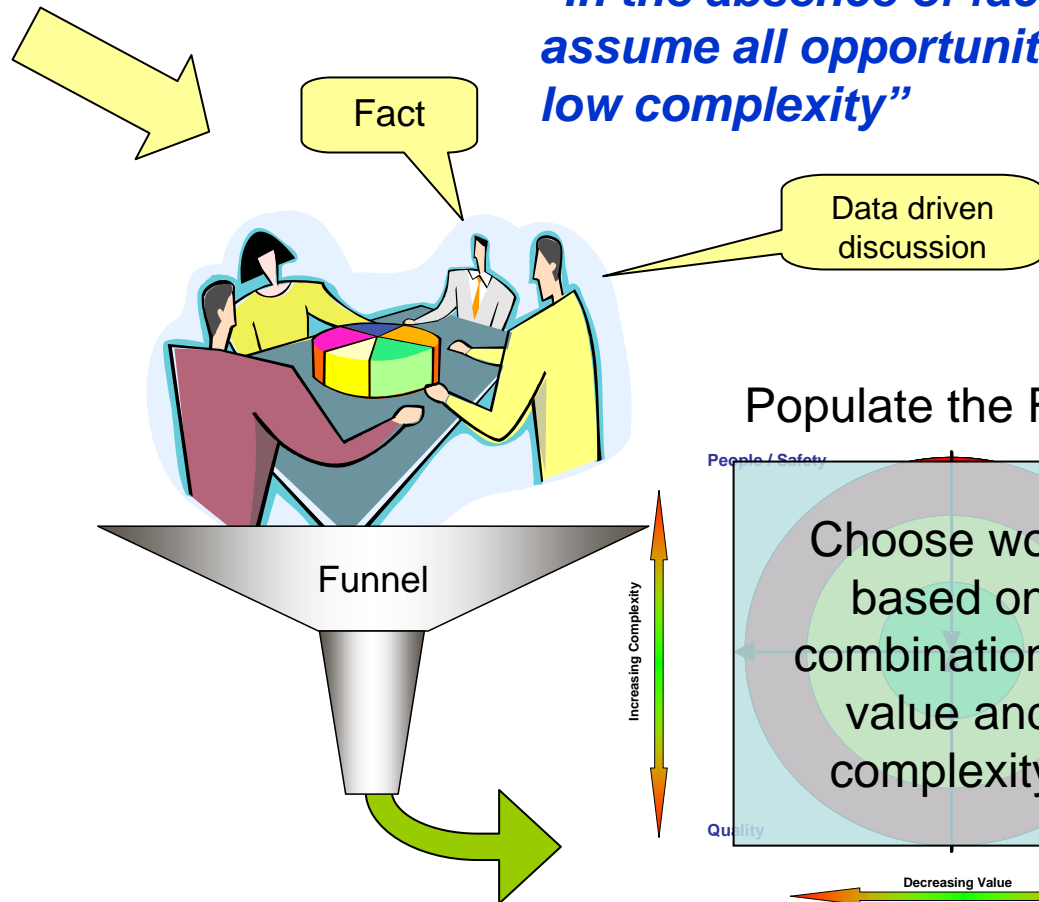
West Hershey - Opportunity Pareto



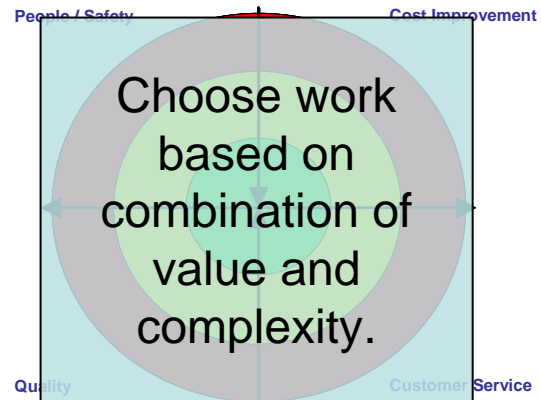
“In the absence of facts we assume all opportunities are low complexity”

Opportunities

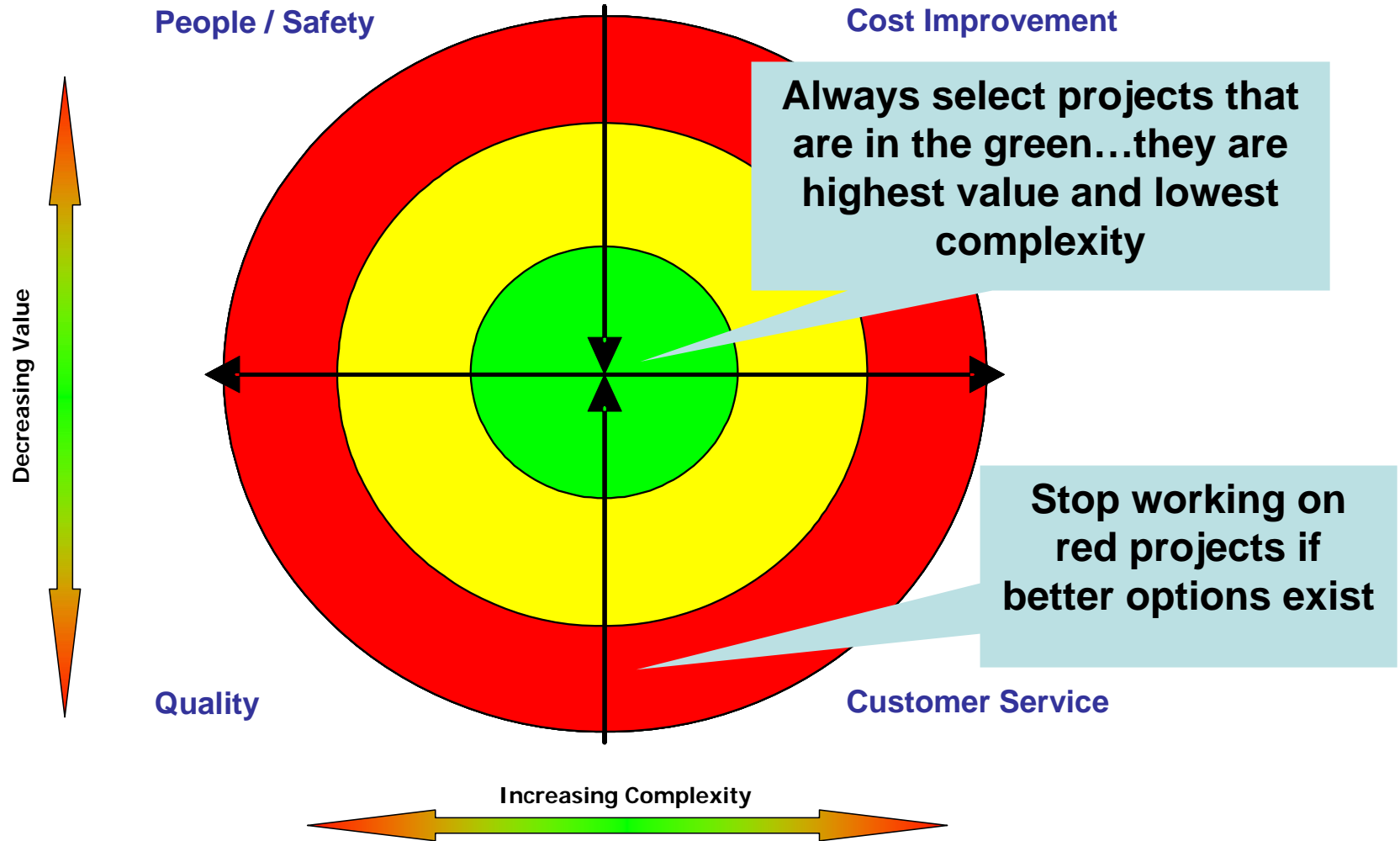
- Safety
- Quality
- Consumer Complaints
- ZBA
- Plant KPIs
- Corporate “must do”
- Ideation
-



Populate the Radar



Selecting projects

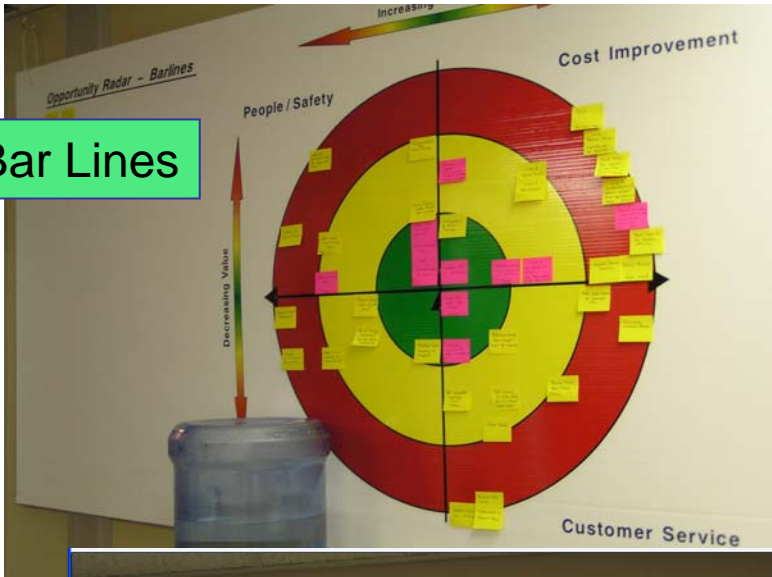


The Plant Radar at West Hershey



Business Unit Team Radars

Bar Lines



Nuggets



Logistics

Improvement Mindsets drive change

Effective Organizations:

- Make fact based decisions
- See problems as opportunities
- Take the initiative to make things better
- Have a sense of urgency
- Focus on results
- Challenge experts
- Set aggressive goals
- Find ways to implement solutions
- Celebrate small victories
- Make time for priorities

Ineffective Organizations:

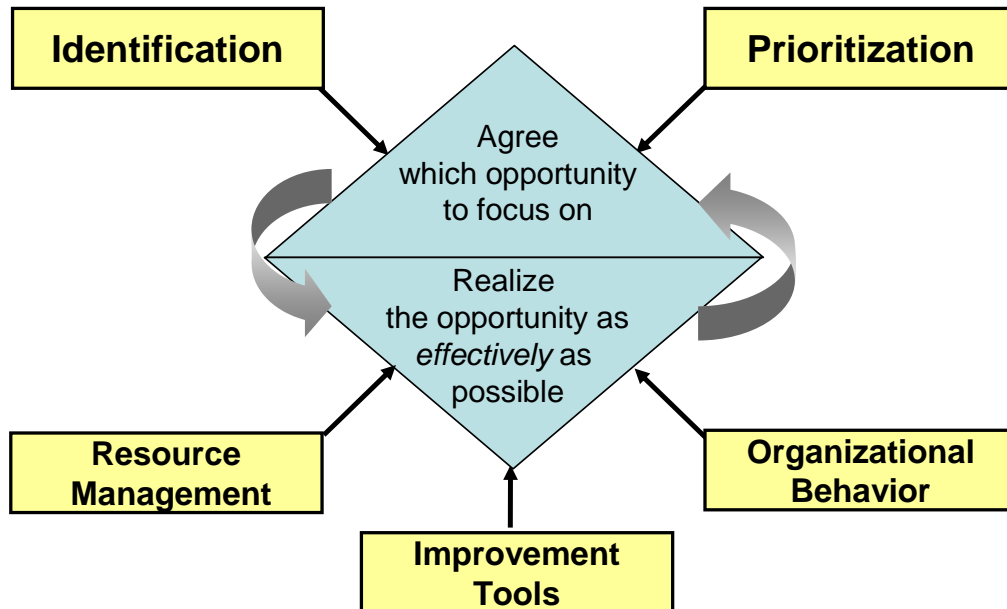
- Jump to conclusions
- Accept constraints
- Blame others
- Wait for others to make a change
- Focus on activities
- Rely on experts
- Set "safe" goals
- Create roadblocks
- Dwell on setbacks
- Are too busy to accomplish actions

We have established a framework for operating with an improvement mindset...

The Hershey Continuous Improvement System

KNOW THE CUSTOMER VALUE
KNOW THE PROCESS

Continuous Improvement



QUEST FOR PERFECTION !

A philosophy to actively engage employees in improving performance daily.



Questions?